

Appl. No. 10/650,631  
Amdt. dated December 27, 2005  
Reply to Office action of August 26, 2005

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1. (previously amended) In combination with an irrigation system having system components including a water supply and at least one valve for selectively directing water to at least one irrigation device in at least one irrigation zone, an irrigation controller comprising:

(a) a microprocessor and a memory for storing irrigation program data and schedule data corresponding to the time and duration of the flow of water to said at least one irrigation zone, said microprocessor for producing control, said microprocessor and said memory including an embedded Web server for communicating said irrigation program data and schedule data to and from HTML formats,

(b) at least one relay in communication with said microprocessor, said relay adapted for receiving said control signals from said microprocessor and for switching electrical currents to said at least one valve in response to said control signals for activation of said at least one valve, whereby said water supply and said at least one valve for selectively directing water to said at least one irrigation device may be selectively activated or deactivated,

(c) an Ethernet connection device for connecting said microprocessor to a LAN, whereby a network accessing device having a Web browser connected to said LAN may

be used to interactively access said embedded Web server of said irrigation controller for viewing and changing of said irrigation program and schedule data.

Claim 2. (previously amended) The irrigation controller of claim 1, wherein,  
the Ethernet connection device is an on-board Ethernet chipset.

Claim 3. (previously amended) The irrigation controller of claim 1, wherein,  
said LAN is also connected to the Internet such that a network accessing device connected to the Internet and having a Web browser may be used to interactively access said embedded Web server of said irrigation controller for viewing and changing of said irrigation program and schedule data.

Claim 4. (previously amended) The irrigation controller of claim 1, further comprising:  
at least one weather sensor connected to said microprocessor and said memory storing weather data from said at least one weather sensor so that said network accessing device may be used to interactively access said embedded Web server to view said weather data.

Claim 5. (previously amended) The irrigation controller of claim 1, wherein,  
said HTML formats include a program and schedule form for viewing and changing program data including program names and run times for each zone and schedule data including start times for each program.

Claim 6. (previously amended) The irrigation controller of claim 1, wherein,  
said at least one relay is a triac.

Claim 7. (previously amended) In combination with an irrigation system having system components including a water supply and at least one valve for selectively directing water to at least one irrigation device in at least one irrigation zone, an irrigation controller comprising:

(a) a microprocessor and a memory for storing irrigation program data and schedule data corresponding to the time and duration of the flow of water to said at least one irrigation zone, said microprocessor for producing control signals, said microprocessor and said memory including an embedded Web server for communicating said irrigation program data and schedule data to and from HTML formats,

(b) at least one relay in communication with said microprocessor, said relay adapted for receiving said control signals from said microprocessor and for switching electrical currents to said at least one valve in response to said control signals for activation of said at least one valve, whereby said water supply and said at least one valve for selectively directing water to said at least one irrigation device may be selectively activated or deactivated,

(c) an on-board Ethernet chipset for connecting said microprocessor to a LAN, whereby a network accessing device having a Web browser connected to said LAN may be used to interactively access said embedded Web server of said irrigation controller for viewing and changing of said irrigation program and schedule data, and,

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(d) at least one weather sensor connected to said microprocessor and said memory storing weather data from said at least one weather sensor so that said network accessing device may be used to view said weather data.

Claim 8. (previously amended) The irrigation controller of claim 7, wherein  
said at least one weather sensor includes a temperature gauge which produces a stop signal when the measured temperature falls below the freezing point of water and  
wherein said microprocessor is programmed to stop the operation of said irrigation system when receiving said stop signal.

Claim 9. (previously amended) The irrigation controller of claim 7, wherein  
said at least one weather sensor includes a rain detector which produces a stop signal when rain is detected and wherein said microprocessor is programmed to stop the operation of said irrigation system when receiving said stop signal.

Claim 10. (previously amended). The irrigation controller of claim 7, further comprising;  
a network accessing device connected to said LAN programmed to automatically access said program data and said weather data and change said program data in response to changes in said weather data.

Claim 11. (previously amended) The irrigation controller of claim 7, wherein,  
said LAN is also connected to the Internet such that a network accessing device  
connected to the Internet and having a Web browser may be used to interactively access  
said embedded Web server of said irrigation controller for viewing and changing of said  
irrigation program and schedule data.

Claim 12. (previously amended) The irrigation controller of claim 7, wherein,  
said LAN is also connected to the Internet and said irrigation control system  
further comprises a server adapted for communication using HTML connected to the  
Internet for interactively accessing said embedded Web server of said irrigation controller  
to automatically adjust said program data and said schedule data in response to changes in  
said weather data.

Claim 13. (previously amended) The irrigation controller of claim 7, wherein,  
said at least one relay is a triac.

Claim 14. (previously amended) An irrigation controller for controlling the functions of  
an irrigation system of the type having a master valve connected to a water supply and a  
plurality of irrigation control valves in communication with said master valve for  
controlling the flow of water to a corresponding plurality of irrigation zones, said  
irrigation controller comprising;

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(a) a microprocessor and a memory for storing irrigation program data and schedule data which specifies the time and duration of the flow of water to each of said plurality of irrigation zones, said microprocessor programmed to generate control signals, said microprocessor and said memory including an embedded Web server for communicating said irrigation program data and schedule data to and from HTML formats,

(b) a plurality of relays in communication with said microprocessor , said triacs including a master valve relay connected to said master valve for controlling said master valve and a plurality of relays which are each connected to one of said plurality of irrigation control valves for controlling each of said plurality of irrigation control valves, said master valve relay and said plurality of relays for receiving said control signals from said microprocessor and for switching electrical currents to said respective valves connected to said relays, whereby the opening and closing of said master valve and said irrigation control valves may be selectively controlled by said microprocessor, and,

(c) an on-board Ethernet chipset for connecting said microprocessor to a LAN, whereby a network accessing device having a Web browser connected to said LAN may be used to interactively access said embedded Web server of said irrigation controller for viewing and changing of said irrigation program and schedule data.

Claim 15. (previously amended) The irrigation controller of claim 14, further comprising:

a server adapted for communication using HTML connected to the Internet for interactively accessing said embedded Web server to automatically adjust said program data in response to changes in said weather data.

Claim 16. (previously amended) The irrigation controller of claim 14, further comprising:

a server adapted for communication using HTML connected to said Internet and accessible by said microprocessor via said LAN, said server receiving and storing said weather data from said at least one sensor connected to said microprocessor and maintaining additional weather data, said server programmed to compare said weather data and said additional weather data against standard seasonal weather conditions and then modify said program data of said irrigation controller in response to variance of said weather data and said additional weather data from standard seasonal weather conditions.

Claim 17. (previously amended) A method for interactively communicating with an irrigation controller for controlling an irrigation system having at least one valve, said method comprising the following steps:

(a) obtaining an irrigation controller including within a single unit a microprocessor, a memory and an Ethernet connecting device and at least one relay responsively connected with said microprocessor for controlling the at least one valve of said irrigation system, said memory loaded with program and schedule data for dictating the times and duration of irrigation operations and programmed with an embedded Web

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server for interactively communicating said irrigation program and schedule data in HTML format,

(b) connecting said Ethernet connecting device of said irrigation controller to a network,

(c) obtaining a network connecting device capable of communication using HTML format,

(d) connecting said network connecting device to said network, and

(e) using said network connecting device to interactively communicate with said irrigation controller to view or change said program or schedule data.

Claim 18. (original) The method of claim 17 further comprising the steps of:

(a) obtaining weather data and changing said program or schedule data in response to changes in said weather data.

Claim 19. (original) The method of claim 17 further comprising the steps of:

(a) providing an automatic rain gauge in communication with said processor, storing rainfall data in said memory of said irrigation controller and programming said embedded Web server to also interactively communicate said rainfall data, and,

(b) receiving said rain fall data from said irrigation controller using said network connecting device and changing said program or schedule data in response to said rainfall data.

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Claim 20. (original) The method of claim 17 further comprising the steps of:

- (a) providing an automatic rain gauge in communication with said processor and storing rainfall data in said memory of said irrigation controller and programming said embedded Web server to also interactively communicate said rainfall data,
- (b) receiving said rain fall data from said irrigation controller using said network connecting device,
- (c) providing said network connecting device with additional weather data, and,
- (d) changing said program or schedule data in response to said rainfall data and said additional weather data when interactively communicating using said network connecting device with said irrigation controller.

Claim 21 (new) In combination with an irrigation system having system components including a water supply at least one valve for selectively directing water to at least one irrigation device in at least one irrigation zone, an irrigation controller comprising:

- (a) a microprocessor and a memory for storing irrigation program data and schedule data corresponding to the time and duration of the flow of water to said at least one irrigation zone, said microprocessor for producing control, said microprocessor and said memory including an embedded Web server for communicating said irrigation program data and schedule data to and from HTML formats,
- (b) at least one relay in communication with said microprocessor , said relay adapted for receiving said control signals from said microprocessor and for switching electrical currents to said at least one valve in response to said control signals for activation of said at least one valve, whereby said water supply and said at least one valve

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for selectively directing water to said at least one irrigation device may be selectively activated or deactivated,

(c) an on-board Ethernet chipset for connecting said microprocessor to a LAN, whereby a network accessing device having a Web browser connected to said LAN may be used to interactively access said embedded Web server of said irrigation controller for viewing and changing of said irrigation program and schedule data, and,

(d) at least one weather sensor connected to said microprocessor and said memory storing weather data from said at least one weather sensor so that said network accessing device may be used to view said weather data, the at least one weather sensor including a temperature gage which produces a stop signal when the measured temperature falls below the freezing point of water, said stop signal communicated to said microprocessor and said microprocessor is programmed to stop the operation of said irrigation system when receiving said stop signal.

Claim 22. (new) The irrigation controller of claim 21, wherein,

the at least one weather sensor further includes a rain detector which produces a stop signal when rain is detected, said stop signal communicated to said microprocessor and said microprocessor is programmed to stop the operation of said irrigation system when receiving said stop signal resulting from the detection of rain.